

Customer No.: 31561  
Application No.: 10/063,576  
Docket No.: 8317-US-PA

## **REMARKS**

### **Present Status of the Application**

The Office Action rejected claims 33-34 and 36 under 35 U. S. C. 102(b) as being anticipated by Charkraworty (U.S. Patent 6,181,569). Claims 1-5, 10-14, 17-18, 22-27 and 30-31 were rejected under 35 U. S. C. 103(a) as being unpatentable over Akram (US Patent 5,903,058) in view of Charkraworty and Kimijima et al. (JP 08-213399). Claims 6, 8-9, 15-16, 20-21 and 28-29 were rejected under 35 U. S. C. 103(a) as being unpatentable over over Akram in view of Charkraworty and Kimijima et al., and further in view of Hosaka (U.S. Patent 6,475,897). Claims 37-38 were rejected under 35 U. S. C. 103(a) as being unpatentable over Charkraworty and in view of Hosaka. Applicants have amended claims 1, 10, 22-23 and have cancelled claims 33-38. After entry of the amendments and considering the following remarks, reconsideration and withdrawal of these rejections are respectfully requested.

### **Discussions of the 102 and 103 rejections**

Claims 33-34 and 36 were rejected under 35 U. S. C. 102(b) as being anticipated by Charkraworty (U.S. Patent 6,181,569).

Claims 33-38 have been cancelled.

Withdrawal of this 102 rejection is respectfully requested.

Claims 1-5, 10-14, 17-18, 22-27 and 30-31 were rejected under 35 U. S. C. 103(a) as being

Customer No.: 31561  
Application No.: 10/063,576  
Docket No.: 8317-US-PA

unpatentable over Akram (US Patent 5,903,058) in view of Charkraworty and Kimijima et al. (JP 08-213399). Claims 6, 8-9, 15-16, 20-21 and 28-29 were rejected under 35 U. S. C. 103(a) as being unpatentable over over Akram in view of Charkraworty and Kimijima et al., and further in view of Hosaka (U.S. Patent 6,475,897).

Claims 1, 10 and 22-23 have been amended to provide more descriptions for clarification according to the present invention. Applicants respectfully traverse the rejections for at least the reasons set forth below.

As stated by the Office Action, Akram failed to teach the requisite step of bonding a conductive stud "by wiring bonding" and "the top surface of the conductive stud is flattened by polishing". The Office Action considered that Akram substantially discloses the claimed method, and relied on Charkraworty for using wire bonding and Kimijima for flattening the conductive stud.

Even if considering wire bonding as equivalent technique to stenciling as asserted by the Office Action, no motivation is equitably provided for one skilled in the art to modify Akram's method by using both teachings from Charkraworty and Kimihima. According to Kimijima's teachings, due to the **plating process** used to form solders, the solders at the center and in the periphery have different sizes, which leads to poor soldering, and consequently the polishing process is performed in order to solve the problems caused by the plating process (see [problems to be solved by the invention] ). Therefore, as one skilled in the art considers modifying Akram's method with Charkraworty's teachings of bonding the conductive stud by wire bonding, it is neither necessary nor reasonable to incorporate Kimijima's polishing process for solving the

Customer No.: 31561  
Application No.: 10/063,576  
Docket No.: 8317-US-PA

problems arisen from using plating, into Akram's method modified with Charkraworty's wire bonding technique. Th Office Action declared that it would be obvious for those skilled in the art to modify Akram's method with Charkraworty and Kimijima. That hindsight rationalization is contrary to the teachings of Kimijima, which thus teaches against the proposed combination.

Hosaka merely discloses certain materials for bumps, but does not suggest the combination of features recited in dependent claims. Therefore, Hosaka fails to remedy the deficiencies of the above cited references.

Furthermore, none of the cited references recognize the advantages of this invention. According to the present invention, flattened top surfaces of the conductive studs are coplanar, which greatly enhances bumping strength.

Accordingly, Applicants respectfully submits that independent claims 1, 10 and 22 patently define over the prior art references, and should be allowed. For at least the same reasons, dependent claims patently define over the prior art references as well.

Customer No.: 31561  
Application No.: 10/063,576  
Docket No.: 8317-US-PA

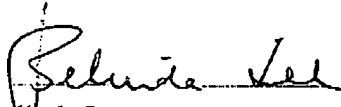
**CONCLUSION**

For at least the foregoing reasons, it is believed that all the pending claims of the invention patently define over the prior art and are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

Respectfully submitted,

Date :

June 21, 2004

  
Belinda Lee  
Registration No.: 46,863

Jianq Chyun Intellectual Property Office  
7<sup>th</sup> Floor-1, No. 100  
Roosevelt Road, Section 2  
Taipei, 100  
Taiwan  
Tel: 011-886-2-2369-2800  
Fax: 011-886-2-2369-7233  
Email: [belinda@jciigroup.com.tw](mailto:belinda@jciigroup.com.tw)  
[Usa@jciigroup.com.tw](mailto:Usa@jciigroup.com.tw)